



# Common Loon

*Gavia immer*

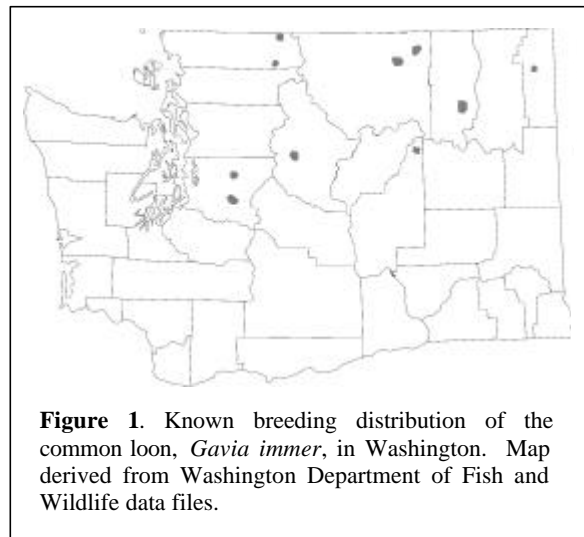
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Written by Jeffrey C. Lewis, Ruth Milner, and Morie Whalen

## GENERAL RANGE AND WASHINGTON DISTRIBUTION

Common loons breed in North America from the Aleutian Islands and Bering Sea coasts, east throughout Canada and south to the northern tier of the lower 48 United States. In western North America, common loons winter along the Pacific coast from southern Alaska to Baja California.

Migrant loons arrive from the north to winter along Washington's coast, the Columbia and Snake rivers, and on lakes in northeastern Washington. Summer populations are very small (see Figure 1). Single breeding pairs have been confirmed on lakes in King, Whatcom, Chelan, Ferry, and Okanogan counties.



**Figure 1.** Known breeding distribution of the common loon, *Gavia immer*, in Washington. Map derived from Washington Department of Fish and Wildlife data files.

## RATIONALE

The common loon is a State Candidate species. This species is vulnerable to shoreline alteration and development, fluctuation of water levels during nesting (e.g., reservoir draw downs and filling), human disturbance in the vicinity of nesting areas, and encroachment by logging and road building.

## HABITAT REQUIREMENTS

### Nesting and Brood Rearing

Common loons breed on larger lakes (>12 ha [29.6 acres] in Alaska; Ruggles 1994) in forested areas and nest on shorelines of islands and the mainland. Nesting also may occur within 1.5 m (5 ft) of shore on masses of emergent vegetation (Vermeer 1973, Strong et al. 1987). Loons may use several types of nests, including nests constructed of vegetation; nests located on hummocks, stumps, and beaver lodges; artificial platforms; and nests scraped out of sand, gravel, or leaves (Belant and Anderson 1991). Several studies have shown that loons prefer to nest on islands (Vermeer 1973, McIntyre 1975, Ream 1976, Titus and Van Druff 1981), and breeding success may be higher on insular sites (McIntyre and Mathisen 1977, Titus and Vandruff 1981). Nest site fidelity has been reported (Strong et al. 1987). In Alaska, reproductive pairs were often found on lakes that were hydrologically connected to other lakes, had medium to high macrophyte cover, and had >50% of the shoreline suitable as nesting habitat (Ruggles 1994). Brood or nursery habitat used by adults and loon chicks is comprised of shallow, protected areas of lakes with abundant aquatic vegetation near the shore (McIntyre 1983).

## Feeding

Common loons require a healthy fish population on which to feed. Studies of loon feeding habits on their breeding grounds are limited, though Vermeer (1973) found that lakes where breeding loons were present were also used by successful anglers. Common loons were absent from many lakes and sloughs that offered poor fishing to anglers.

## LIMITING FACTORS

Loon abundance and reproductive success is dependent upon the availability of undisturbed shoreline or island nesting sites. Fluctuations of water levels and other disturbances at nest sites have been responsible for nest failures, and therefore limit reproductive success. Protection of the forage base and water quality is essential.

## Human Impacts

Heavy recreational use may be a key factor in the decline of loon productivity because the birds are susceptible to disturbance during nesting. Titus and Vandruff (1981) found that loons nesting on lakes where motorboats were absent had greater egg-hatching rates than those nesting on lakes where motorboats occurred. Vermeer (1973) found more breeding pairs in areas with fewer resorts, cottages, and campsites. Heimberger et al. (1983) showed that breeding success declined as the number of cottages within 150 m (492 ft) of nests increased. Lake size may affect the influence human disturbance has on loon nesting. Some studies have shown that loons have equal or greater reproductive success on larger lakes with substantial human disturbance than smaller lakes with little or no human disturbance (Jung 1991, Caron and Robinson 1994, Ruggles 1994). It appears that loons may acclimate to heightened disturbance levels while occupying the greater number of undisturbed coves and bays of larger lakes.

Loons appear susceptible to heavy metal poisoning (especially mercury in low pH lakes) through consumption of contaminated fish (Scheuhammer and Blancher 1994, Meyer et al. 1995). Fortunately, much of this mercury is sequestered into feathers during the molt and shed in the succeeding molt (Burger et al. 1994). However, heightened levels of mercury can negatively affect loon reproductive success (Burger et al 1994, Scheuhammer and Blancher 1994, Meyer et al. 1995).

## MANAGEMENT RECOMMENDATIONS

Protection of loons and their habitat during pair-bonding, egg laying, and initial brood rearing (1 April through 15 July) is important for reproductive success. Brood-rearing areas or nurseries are also important to protect after 15 July. Because common loons may re-use nests from year to year, protection of known nesting and brood-rearing areas is essential. Camping on islands can adversely affect loon productivity and may cause nest abandonment (Ream 1976). Campers and other visitors should be prevented from approaching within 150 m (492 ft) of nesting sites from 1 April through 15 July. A 150 m (492 ft) disturbance buffer is also recommended for brood-rearing areas (nursery pools) from 15 July to 1 September (R. Spencer, personal communication). Building within 150 m (492 ft) of a loon nest should be avoided year-round to maintain a permanent buffer around nests.

The absence of suitable nesting islands may limit the breeding activity of common loons. In areas where natural islands are unavailable, artificial islands can be provided. McIntyre and Mathisen (1977) created nesting islands by obtaining sedge mats from boggy lakes and binding the mats' edges with poles. Cedar log rafts were also found to be effective. Artificial nest sites have been used in Washington, primarily in reservoirs with fluctuating water levels (R. Spencer, personal communication). As breeding pairs of loons are not abundant in Washington, protection of all nest sites is important. Consequently, reservoirs where loons nest should maintain constant water levels when loons are laying and incubating eggs (a 30 day period).

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## PERSONAL COMMUNICATIONS

Rocky Spencer, Area Wildlife Biologist  
Washington Department of Fish and Wildlife  
Mill Creek, Washington

## KEY POINTS

### Habitat Requirements

- Common loons breed on large lakes in forested areas.
- A healthy fish population is required as a prey base.
- Nests are situated on shorelines, islands, or floating structures within 1.5 m (5 ft) of shore.
- Nests may be constructed on emergent vegetation, and nest sites may be reused.
- Common loons are very susceptible to nest disturbance. They are intolerant of recurrent disturbance within 150 m (492 ft) of nest sites.

### Management Recommendations

- Protect known nest and nursery sites.
- Restrict disturbance of nest sites from 1 April to 15 July and brood-rearing nursery pools from 15 July to 1 September. Maintain a 150 m (492 ft) disturbance buffer around brood-rearing areas (nursery pools) from 15 July to 1 September.
- Erect no structures within 150 m (492 ft) of nesting sites. Avoid building within this distance year round to maintain a permanent buffer around nests.
- Provide artificial nesting islands (e.g., sedge mats and cedar log rafts) where appropriate (e.g., reservoirs).